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10/781,780	02/20/2004	Kete Charles Chalermkraivuth	52493.000352	4471

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EXAMINER	
FERTIG, BRIAN E	
ART UNIT	**PAPER NUMBER**
3694	

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/781,780	CHALERMKRAIVUTH ET AL.	
	Examiner	Art Unit	
	BRIAN FERTIG	3694	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *23 January 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-27* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-27* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1/26/2008*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

This action is in response to the reply filed 1/23/2008. Claims 1-27 are pending and examined below.

Information Disclosure Statement

1. The information disclosure statement filed 1/22/2008 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each cited foreign patent document; each non-patent literature publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. Examiner notes that certain the copies of references are incomplete in so far as they contain, only a copy of the table of contents and are entirely missing the text of the relevant sections. It is also noted that the foreign reference provided contain only the English Abstract and no further indication by Applicant of what the relevant section of these references are. As such Examiner is not able to consider these references.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

3. Claims 5, 8, 10,15,20,24, and 29 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. Claims 5, 8, 10, 15, 20, 24 and 29 provide for the use of a concatenation process, dominance filtering process, Target

Objectives Genetic Algorithm process, and combination of linear programming and sequential linear programming algorithms, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced. See also MPEP § 2173.05(q) further discussing the rationale for the alternative rejections of these claims.

Claim Rejections - 35 USC § 101

4. 35 U.S.C. 101 reads as follows:

> Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

5. Claims 5, 8, 10,15,20,24, and 29 are rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd.* v. *Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966). See also MPEP § 2173.05(q) further discussing the rationale for the alternative rejections of these claims.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –

> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

7. Claims 1-6, 12-14, 16-18, 22-24, and 26 are rejected under 35 U.S.C. 102(e) as being anticipated by US Patent Application Publication 2003/0195831 for Feldman (Feldman).

With respect to claim 1

Feldman teaches:

A method for multi-objective portfolio optimization for use in investment decision, based on competing objectives and a plurality of constraints constituting a portfolio problem, the method comprising:

generating an initial population of solutions of portfolio allocations (see par 38 and Fig 3, step 11, note that a set of risk assets is provided);

performing a first multi-objective process, based on the initial population and the competing objectives, to generate a first interim efficient frontier (see par 47, 50 and Fig 3, step 15, note that a plurality of simulations are performed and result in multiple efficient frontiers, note further that it is based on the initial population and competing objectives in so far as the statistics of the initial population are resampled and the competing objectives - i.e. risk and return are the same);

performing a second multi-objective process, based on the initial population and the competing objectives, to generate a second interim efficient frontier (see par 47, 50 and Fig 3, step 15, note that a plurality of simulations are performed and result in multiple efficient frontiers, note further that it is based on the initial population and competing objectives in so far as the statistics of the initial population are resampled and the competing objectives - i.e. risk and return are the same); and

fusing the first initial efficient frontier with the second interim efficient frontier to create an augmented efficient frontier for use in investment decisioning (see par 51, note that the efficient frontiers are accumulated so that a plurality of simulated portfolios can be selected. See also Fig 4a-c and 5 depicting the fusing of the augmented frontiers from which the portfolios are drawn)

With respect to claim 2

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above), wherein the first multi-objective process and the second multi-objective process are the same process (see par 47, note that the simulations are the same in so far as they result in efficient frontiers).

With respect to claim 3

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above), wherein the first multi-objective process and the second multi-objective process are a different process (see par 47, note that the simulations are different in so far as they act upon resampled input parameters).

With respect to claim 4

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above), wherein the portfolio allocations are allocations of securities (see par 77, note that risky assets are contemplated to include stocks).

With respect to claim 5

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above), wherein the fusing of the first interim efficient frontier and the second interim efficient frontier is performed using a concatenation process. (see par 47 and 51, note that concatenation is performed in so far as the data sets are accumulated, note that the specification (see page 43) identifies “augmentation” as being synonymous with concatenation)

With respect to claim 6

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above), wherein the competing objectives are risk and return measures (i.e. standard deviation and expected return, see par 39).

With respect to claim 12

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above), wherein generating the initial population includes generating an initial population of feasible solutions (see par 38, note that the privded set of risk assets is feasible in so far as it is possible to provide them).

With respect to claim 13

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above), the method further including selecting at least one portfolio from the generated efficient frontier in a multi-objective decision making environment to meet investment goals (see par 51, note that a plurality of portfolios are selected for each efficient frontier).

With respect to claim 14

Feldman teaches:

The method of claim 13 (see rejection of claim 13 above), the selecting at least one portfolio from the generated efficient .frontier includes:

observing the generated efficient frontier (see par 56, note that the resampled efficient frontier is observed);

identifying, an area of the efficient frontier in which there is a gap (see par 56, note that the efficient frontier may contain gaps);

effecting a gap filling process by which the efficient frontier is filled in the area of the gap (see par 56 and 59, note that the identified gaps may be filled by a gap-filling step).

With respect to claim 16

Feldman teaches:

The method of claim 14 (see rejection of claim 14 above), wherein the efficient frontier is presented to a human observer in the form of a graphical representation (i.e. presented for selection, see par 61 in combination with par 66, teaching a display and par 67 teaching a web site for selection).

With respect to claim 17

Feldman teaches:

The method of claim 14 (see rejection of claim 14 above), wherein the selecting at least one portfolio from the generated efficient frontier includes selecting the at least one portfolio in the from the area that was filled in by the gap filling process (see par 56, 59-60, note that upon completing the gap filling process, the available portfolios are presented to a portfolio manager for selection. As such, a portfolio from the area filled by the gap is selected for display to the manager).

With respect to claim 18

Feldman teaches:

The method of claim 14 (see rejection of claim 14 above), wherein the effecting a gap filling process by which the efficient frontier is filled in the area of the gap further including:

providing a set of target vectors (i.e. vector operations);

generating a series of chromosomes over multiple generations (i.e. an arbitrary number of portfolios over equally spaced intervals); and

evaluating the fitness of each chromosome until a population with an acceptable fitness is determined so as to fill in the identified gap (i.e portfolio is the result of vector operation, see par 56).

With respect to claim22

Feldman teaches:

A system for multi-objective portfolio optimization for use in investment decisions based on competing objectives and a plurality of constraints constituting a portfolio problem, the system comprising:

a population generation portion that generates an initial population of solutions of portfolio allocations (see par 38 and Fig 3, step 11, note that a set of risk assets is provided);

a first processing portion that performs a first multi-objective process, based on the initial population and the competing objectives, to generate a first interim efficient frontier (see par 47, 50 and Fig 3, step 15, note that a plurality of simulations are

performed and result in multiple efficient frontiers, note further that it is based on the initial population and competing objectives in so far as the statistics of the initial population are resampled and the competing objectives - i.e. risk and return are the same);

a second processing portion that performs a second multi-objective process, based on the initial population and the competing objectives, to generate a second interim efficient frontier (see par 47, 50 and Fig 3, step 15, note that a plurality of simulations are performed and result in multiple efficient frontiers, note further that it is based on the initial population and competing objectives in so far as the statistics of the initial population are resampled and the competing objectives - i.e. risk and return are the same); and

a fusing portion that fuses the first interim efficient frontier with the second interim efficient frontier to create an augmented efficient frontier for use in investment decisioning (see par 51, note that the efficient frontiers are accumulated so that a plurality of simulated portfolios can be selected. See also Fig 4a-c and 5 depicting the fusing of the augmented frontiers from which the portfolios are drawn).

With respect to claim 23

Feldman teaches:

The system of claim 22 (see rejection of claim 22 above), wherein the first multi-objective process and the second multi-objective process are a different process (see par 47, note that the simulations are different in so far as they act upon resampled input parameters).

With respect to claim 24

Feldman teaches:

The system of claim 22 (see rejection of claim 22 above), wherein the fusing of the first interim efficient frontier and the second interim efficient frontier is performed using a concatenation process (see par 47 and 51, note that concatenation is performed in so far as the data sets are accumulated, note that the specification (see page 43) identifies "augmentation" as being synonymous with concatenation).

With respect to claim 26

Feldman teaches:

A computer readable medium for multi-objective portfolio optimization for use in investment decision, based on competing objectives, and a plurality of constraints constituting a portfolio problem, the computer readable medium comprising:

a first portion that generates a. initial population of solutions of portfolio allocations (see par 38 and Fig 3, step 11, note that a set of risk assets is provided);

a second portion that performs a first multi-objective process, based on the initial population and the competing objectives, to generate a first interim efficient frontier (see par 47, 50 and Fig 3, step 15, note that a plurality of simulations are performed and result in multiple efficient frontiers, note further that it is based on the initial population and competing objectives in so far as the statistics of the initial population are resampled and the competing objectives - i.e. risk and return are the same);

a third portion that performs a second multi-objective process, based on the initial population and the competing objectives, to generate a second interim efficient frontier (see par 47, 50 and Fig 3, step 15, note that a plurality of simulations are performed and result in multiple efficient frontiers, note further that it is based on the initial population and competing objectives in so far as the statistics of the initial population are resampled and the competing objectives - i.e. risk and return are the same); and

a fourth portion that fuses the first interim efficient frontier with the second interim efficient frontier to create an augmented efficient frontier for use in investment decisioning (par 51, note that the efficient frontiers are accumulated so that a plurality of simulated portfolios can be selected. See also Fig 4a-c and 5

depicting the fusing of the augmented frontiers from which the portfolios are drawn).

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

9. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

10. Claims 7-8, 21, 25, and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman in view of A Family of Dominance Filters for Multiple Criteria Decision Making; Choosing the Right Filter for a Decision Situation, by Naresh Iyer, dissertation, Ohio State University, 2001 (Iyer).

With respect to claim 7

Feldman teaches:

> The method of claim 1 (see rejection of claim 1 above), but does not explicitly teach wherein the first multi-objective process is a Pareto Sorting Evolutionary Algorithm (PSEA) process.

Iyer teaches:

> wherein the first multi-objective process is a Pareto Sorting Evolutionary Algorithm (PSEA) process (i.e. make use of the Pareto Dominance Filter, see Abstract).

It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have provided the simulation of Feldman with the Pareto Dominance Filter of Iyer in order to eliminate suboptimal alternatives as taught explicitly by Iyer (see Abstract).

With respect to claim 8

Feldman in view of Iyer teaches:

> The method of claim 7 (see rejection of claim 7 above), further including using a dominance filtering process in the generation of the first interim efficient frontiers (i.e. make use of the Pareto Dominance Filter, see Iyer Abstract)

(see rationale supporting obviousness and motivation to combine of claim 7 above)

With respect to claim 21

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above), but does not explicitly teach further comprising applying a dominance process to the augmented efficient frontier to create a global efficient frontier.

Iyer teaches:

further comprising applying a dominance process to the augmented efficient frontier to create a global efficient frontier (see pages 2-3 and 15. note that applying the principle of dominance allows on to achieve Pareto optimal solutions in combination with Feldman par 59 teaching a global efficient frontier in so far as it teaches extending the efficient frontier to cover the entire range of expected returns)

It would have been obvious to one having ordinary skill in the art to have provided Feldman with the dominance filtering features of Iyer in order to achieve a Pareto optimal solution as taught explicitly by Iyer, (se page 2)

With respect to claim 25

Feldman in view of Iyer teaches:

The system of claim 22, further including a dominance filtering portion, the dominance filtering portion performing the dominance filtering process in conjunction with the generating of the first interim efficient frontiers (i.e. make use of the Pareto Dominance Filter, see Iyer Abstract),

(see rationale supporting obviousness and motivation to combine of claim 7 above)

With respect to claim 27

Feldman in view of Iyer teaches:

A method of multi-objective optimization for use in investment decisions based on competing objectives and a plurality of constraints constituting a portfolio problem, the method comprising:

generating an initial population of solutions of portfolio allocations (see Feldman par 38 and Fig 3, step 11, note that a set of risk assets is provided);

performing a first multi-objective process, based on the initial population and the competing objectives, to generate a first interim efficient frontier (see Feldman par 47, 50 and Fig 3, step 15, note that a plurality of simulations are performed and result in multiple efficient frontiers, note further that it is based on the initial population and competing objectives in so far as the statistics of the initial population are resampled and the competing objectives - i.e. risk and return are the same);

performing a second multi-objective process, based on the initial population and the competing objectives, to generate a second interim efficient frontier (see Feldman par 47, 50 and Fig 3, step 15, note that a plurality of simulations are performed and result in multiple efficient frontiers, note further that it is based on the initial population and competing objectives in so far as the statistics

of the initial population are resampled and the competing objectives - i.e. risk and return are the same); and

fusing the first interim efficient frontier with the second interim efficient frontier to create an augmented efficient frontier for use in investment decisioning (see Feldman par 51, note that the efficient frontiers are accumulated so that a plurality of simulated portfolios can be selected. See also Fig 4a-c and 5 depicting the fusing of the augmented frontiers from which the portfolios are drawn);

wherein the first multi-objective process and the second multi-objective process are a different process (see Feldman par 47, note that the simulations are different in so far as they act upon resampled input parameters);

wherein the competing objectives are risk and return measures (i.e. standard deviation and expected return, see Feldman par 39); and

wherein the first multi-objective process is a Pareto Sorting Evolutionary Algorithm (PSEA) process (i.e. make use of the Pareto Dominance Filter, see Iyer Abstract), and the method further including

using a dominance filtering process in the generating of tile first interim efficient frontiers (i.e. make use of the Pareto Dominance Filter, see Iyer Abstract).

(see rationale supporting obviousness and motivation to combine of claim 7 above)

11. Claims 9 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman in view of Neil Eklund's article, Multiobjective visible spectrum optimization: A genetic algorithm approach, Rensselaer Polytechnic Institute, Volume 6311B (Eklund)

With respect to claim 9

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above). But does not explicitly teach wherein the first multi-objective process is a Target Objectives Genetic Algorithm (TOGA) process .

Eklund teaches:

wherein the first multi-objective process is a Target Objectives Genetic Algorithm (TOGA) process (see page 1)

It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have provided the simulation of Feldman with the TOGA process features of Eklund in order to find optimal solutions to multi-objective problems at particular levels of target objectives as taught explicitly by Eklund (see page 1)

With respect to claim 15

Feldman teaches:

> The method of claim 14 (see rejection of claim 14 above), but does not explicitly teach wherein the gap filling process is performed using a Target Objectives Generic Algorithm process.

Eklund teaches:

> wherein the gap filling process is performed using a Target Objectives Generic Algorithm process (see page 1).

It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have provided the gap filling of Feldman with the TOGA process features of Eklund in order to find optimal solutions to multi-objective problems at particular levels of target objectives as taught explicitly by Eklund (see page 1)

12. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman in view of Eklund in further view of Iyer.

With respect to claim 10

Feldman in view of Eklund teaches:

> The method of claim 9 (see rejection of claim 9 above), but does not explicitly teach further including using a dominance filtering process in the generating of time first interim efficient frontiers.

Iyer teaches:

further including using a dominance filtering process in the generating of time first interim efficient frontiers (see pages 2-3 and 15, note that applying the principle of dominance allows on to achieve Pareto optimal solutions and doing so using a filter allows the decision maker to impose his preference of finding a Pareto optimal solution)

It would have been obvious to one having ordinary skill in the art at the time of applicant's invention to have provided Feldman in view of Eklund with the dominance filtering features of Iyer in order to achieve a Pareto optimal solution as taught explicitly by Iyer, (se page 2)

13. Claims 11, and 19-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Feldman in further view of Using Efficient Anchoring Points for Generating Search Directions in Interior Multiobjective Linear Programming by Ami Arbel, The Journal of Operational Research Society, VOl 45, No 3, March 1994, p 330-344. (Arbel) and Nonlinear Optimization by Successive Linear Programming, F. Palacios-Gomez, Management Science, Vol 28, No 10, Oct 1982, p 1106-1120 (Palacios-Gomez)

With respect to claim 11

Feldman teaches:

The method of claim 1 (see rejection of claim 1 above), but does not explicitly teach wherein the first multi-objective process is a sequential linear programming process.

Arbel teaches:

wherein the first multi-objective process is a linear programming process (see pg 330, note that LP are applied to MOLP problems).

Palacios-Gomez teaches:

Using successive linear programs to solve non-linear optimization problems via a sequence of linear programs (see pg 1106)

It would have been obvious to one having ordinary skill in the art at the time of Applicant's invention to have provided the simulations of Feldman with the linear programming and anchoring features of Arbel in order to solve multi-objective linear programming problems as taught explicitly by Arbel (see pg 330)

It would have been further obvious to provide Feldman in view of Arbel with the successive linear programming feature of Palacios-Gomez in order to solve non-linear multi-objective problems as taught implicitly by Palacios-Gomez since non-linear programming problems may be solved by a sequence of linear programs.

With respect to claim 19

Feldman in view of Arbel and Palacios-Gomez teaches:

The method of claim 1 (see rejection of claim 1 above), wherein the generating an initial population of solutions (i.e. anchor points) of portfolio allocations includes a process for systematically generating the initial population of solutions to substantially cover an entire risk/return objectives space (see Arbel, pg 330 and fig 1, note that anchoring points are systematically found at the edge of the feasible region and in

combination with analysis of the interior of the entire solution space, serve to take steps toward the solution of multi-objective linear programs)

(see rationale supporting obviousness and motivation to combine of claim 11 above)

With respect to claim 20

Feldman in view of Arbel and Palacios-Gomez teaches:

The method of claim 19 (see rejection of claim 19 above), wherein the generating the initial population of solutions uses a combination of linear programming and sequential linear programming algorithms (see Palacios-Gomez, pg 1106, note that a solution employing sequential linear programming techniques inherently uses linear programming technique. See also Arbel pg 330 teaching that certain linear programming techniques tend to find solutions on the exterior of the constraints polytope, thereby suggesting their usefulness in identifying anchor points The combined teaching fairly suggests that the application of sequential linear programming techniques would be applied to find anchoring points on the exterior of the solution space for non-linear multi-objective problems by employing sequence of linear programs).

(see rationale supporting obviousness and motivation to combine of claim 11 above)

Inquiry

14. Any inquiry concerning this communication or earlier communications from the examiner should be directed to BRIAN FERTIG whose telephone number is (571)270-5131. The examiner can normally be reached on Monday - Friday 8:30am to 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, James Trammell can be reached on (571) 272-6712. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

15. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/B.F./

/James P Trammell/
Supervisory Patent Examiner, Art Unit 3694